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139,322

PATENT



SPECIFICATION

Application Date, Mar. 24, 1919. No. 7231/19.

Complete Left, Sept. 18, 1919.

Complete Accepted, Mar. 4, 1920.

PROVISIONAL SPECIFICATION.

**Improvements in and relating to the Blowing or Formation of
Bottles and the like.**

I, JAMES MACLUSKIE, Managing Director of Alexandra Bottle Works, Limited, Milnbank, Alexandra Parade, in the City and County of Glasgow, Bottle Manufacturer, do hereby declare the nature of this invention to be as follows:—

5 This invention has reference to improvements in and relating to the blowing formation of bottles and the like, and essentially comprises an improved method or combination of appliances for producing a bottle or the like with a neck bent at right or other angles to the length of the bottle.

According to my improvements I form a blowing mould with an internal
10 formation corresponding to that of the bottle to be formed, but at the neck part I bend same to a shape which may be at right or other angles or curvature as may be desired. This may be effected by forming the vertical part of the mould to the configuration of the shape of bottle desired and this vertical part may be hinged or otherwise attached, but where the bend is desired to the formation
15 of neck or bottle such as at right angles or at other angles or curvature the top of the base part of mould is formed of a shape to suit the kneed, angled or other formation of neck of bottle, and the upper part of mould which according to my improvements is movable is made of a like formation to form the counterpart of mould so that when the upper removable top part and lower base part come
20 together the canal or exit of the material is formed. This upper or lid part may be hinged or otherwise fitted in combination with the lower part of mould to give the kneed, angled or other formation desired to the neck of bottle.

The material used may be glass, china, earthenware or the like, and the apparatus is applicable for either hand or machine work.

25 Dated this 21st day of March, 1919.

W. R. M. THOMSON & Co.,
96, Buchanan Street, Glasgow,
Agents.

[Price 6d.]

COMPLETE SPECIFICATION.

Improvements in and relating to the Blowing or Formation of Bottles and the like.

I, JAMES MACLUSKIE, Managing Director of Alexandra Bottle Works, Limited, Milnbank, Alexandra Parade, in the City and County of Glasgow, Bottle Manufacturer, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

5

This invention has reference to improvements in and relating to the blowing formation of bottles and the like, and essentially comprises an improved method or combination of appliances for producing a bottle or the like in which the curve of the shoulder at one side of the bottle is continued to form the upper side of the neck at right angles or approximately right angles to the axis of the bottle. The underside of the neck is formed to correspond so that the outlet of the bottle is on a plane parallel or approximately parallel to the axis of the body of the bottle.

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I am aware that it has been proposed to make bottles provided with a faucet part at an angle to the bottle neck so that the pressure of the contents of the bottle does not act on the foot of the cork contained within said faucet.

15

The method proposed for making such a bottle consisted in blowing it in a four-part hinged mould, the top section of which shaped the outer side of the inclined faucet and was hinged to one of the body sections.

According to my improvements I form a blowing mould with an internal formation corresponding to that of the bottle to be formed, the part forming the curved shoulder at one side being continued to form the upper side of the neck at right angles or approximately right angles to the axis of the bottle and the mould forming the underside of the neck shaped to correspond.

20

In order that my invention may be clearly understood, I have hereunto appended two explanatory sheets of drawings whereon:—

25

Figures 1 to 4 illustrate a form of my invention whereby bottles of the type set forth are hand made.

Figures 5 to 7 illustrate a form of my invention whereby bottles of the said type are machine made.

30

Figures 8 and 9 illustrate a modification.

Referring to my invention whereby the bottles may be made by hand.

Figure 1 is a front view partly in section thereof with the sections of the mould shown in a fully open position to illustrate same clearly.

Figure 2 is a plan view thereof.

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Figure 3 is a vertical section of the mould in the closed position showing a bottle formed therein.

Figure 4 illustrates a view of the underside of one of the mould sections.

Referring to the drawings:—

1 is the base plate having an upright rod 2 secured thereto. By means of lugs 3, 4 the side sections *a* and *b* of the mould are pivotly supported by said rod. The section *a* carries a bracket 5 to which is pivotly secured the third section *c* of the mould.

40

The mould sections *a* and *b* are recessed at *d* and *e* to form the body part of the bottle *f* and at *g* and *h* to encompass the projection or table 6 on the table 2. At the upper parts of said sections are projections *i*, *j*, shaped to suit the underside of the kneed, angled or other formation of neck of the bottle.

45

The third section of the mould *c* is recessed at *k* to form the top of the bottle

and the counter part of the mould so that when section *c* is brought down on the sections *a* and *b* the neck canal or exit *f*¹ of the bottle is formed.

The bottles are made as follows:—

- 5 The operator picks up the necessary amount of metal on his blow rod and placing same on the projecting table 6 the sections *a*, *b*, are then swung together. This is accomplished by arms 7 having handles 8 secured to said sections.

- 10 One of said arms is pivotly secured as at 9 and has a catch 10 adapted to engage a projection 11 on the other section and thereby lock the two sections together. The operator then blows a little air into the metal which rises within the mould and when it is about the level of the top of the sections *a* and *b* the third section *c* is swung into the position shown in Figure 3. The operator blows more air into the metal if required and at the same time draws outwardly the blow rod. This is clearly illustrated in Figure 3.

- 15 The three members of the mould are then flung open and the shaped bottle withdrawn. The neck part would be finished off by grinding. The section *c* may be made in two or more parts.

The form of my invention whereby bottles of the type set forth are made by machine will now be described.

- 20 Figure 5 illustrates a section of a ring mould and a parison mould.

Figure 6 shows the ring mould together with a finishing mould.

Figure 7 is an end view of Figure 6 partly in section.

Figures 5, 8 and 9 illustrate a modified form of ring mould.

- 25 In making bottles of the type set forth by machine, under my invention the neck of the bottle is first formed in a ring mould together with a roughly shaped body formed in a parison mould. The unfinished bottle is then transferred with the ring mould to a finishing mould where the operation is completed.

- Referring to Figures 5, 6 and 7 of the drawings. The ring mould comprises two sections *m* and *n* pivoted together by lugs *m*¹ and *n*¹ as at 12 and having 30 arms 13 for opening and closing said sections. Those sections form the mould for the top of the bottle, the neck part thereof being formed in the grooves 17. This mould is first placed on a table 14, a recess 15 on the mould engaging a projection 16 on the table 14. A flange or projection 24 formed on the mould may also rest on the table to steady the mould. Surmounting the ring mould 35 is a parison mould 18 and into this mould a quantity of metal is poured. Compressed air is then introduced into the molten metal through the canal 17 by means of a hollow tube 26 having a hole 27 for the exit of the compressed air. The parison mould which would be made in sections is then withdrawn, 40 the ring mould with the roughly shaped bottle reversed and suspended over the projection 6 on the table 1 by means of arms 28 engaging projecting flanges 19 formed on the ring mould. The sections of the mould *a* and *b* which are pivoted by lugs 3 and 4 to the upright 2 secured to the base 1 are then swung round by means of the arms 7 and locked in position as in the hand machine, so as to 45 embrace the roughly formed metal. More compressed air is then admitted through the canal or neck of the bottle *f*¹ and the bottle *f* thereby formed to the required shape. The sections of the mould are then swung into the open position leaving the shaped bottle. A modified form of ring mould is illustrated in Figures 8 and 9, Figure 8 being a front view and Figure 9 a plan view thereof with the upper section *o* removed. This ring mould comprises three 50 sections *o*, *p* and *q*. By means of lugs 20 and 21 the sections *p*, *q* are pivoted as at 23. The section *p* has a bracket 22 to which is pivotly secured the third section *o* of the ring mould. The sections *p* and *q* have projections *r* and *s* grooved at *t* and *u* and the said projections with the grooves form the under part of the bent or angled neck *r* of the bottle. The third section of the ring 55 mould is recessed as at *w* to form the top and counter part of the neck of the bottle. 19 are the outwardly projecting flanges to engage with the arm 28 and 13 are the arms for moving the sections *p* and *q* relative to each other. This

ring mould is used exactly as the ring mould previously described—first with the parison mould and then with the finishing mould. When the bottle is formed the three parts of the said mould are swung into their open position. This latter mould would preferably be used when the metal is heavy to work.

Of course my invention is not confined to the particular type of bottle shown 5 nor to the particular shape of the neck part thereof.

The material used may be glass or any other suitable material.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

10

1. The method of and means for making bottles of the type set forth consisting in forming both the body and neck parts of the bottle by blowing the molten metal or material in a mould having an internal formation corresponding to the shape of the body of the bottle to be formed, the part forming the curved shoulder at one side being continued to form the upper side of the neck at right angles or approximately right angles to the axis of the bottle and the mould forming the underside of the neck shaped to correspond, substantially as described. 15

2. In the method of and means, as specified in Claim 1, for making bottles of the type set forth a mould comprising sections to form the sides of the bottle and the underside of the neck part thereof and a section or sections to form the upper part of the bottle and the upper part of the neck, substantially as described. 20

3. In the method of and means, as specified in Claim 1, for making bottles of the type set forth forming the upper part of the bottle with the neck part thereof in a ring mould together with a roughly shaped body part formed in a parison mould, and completing the making of the bottle in a finishing mould substantially as described. 25

4. The method of and means, substantially as described with reference to Figures 1 to 4 of the annexed drawings, for making bottles of the type set forth. 30

5. The method of and means substantially as described with reference to Figures 5 to 7 of the annexed drawings for making bottles of the type set forth.

6. The method of making bottles substantially as set forth in Claim 5 and means comprising a ring mould substantially as described with reference to Figures 8 and 9 of the annexed drawings and a parison mould, and finishing 35 mould substantially as described with reference to Figures 5 to 7.

7. The mould or moulds for the manufacture of bottles of the type set forth by hand and by machine substantially as described with reference to the annexed drawings.

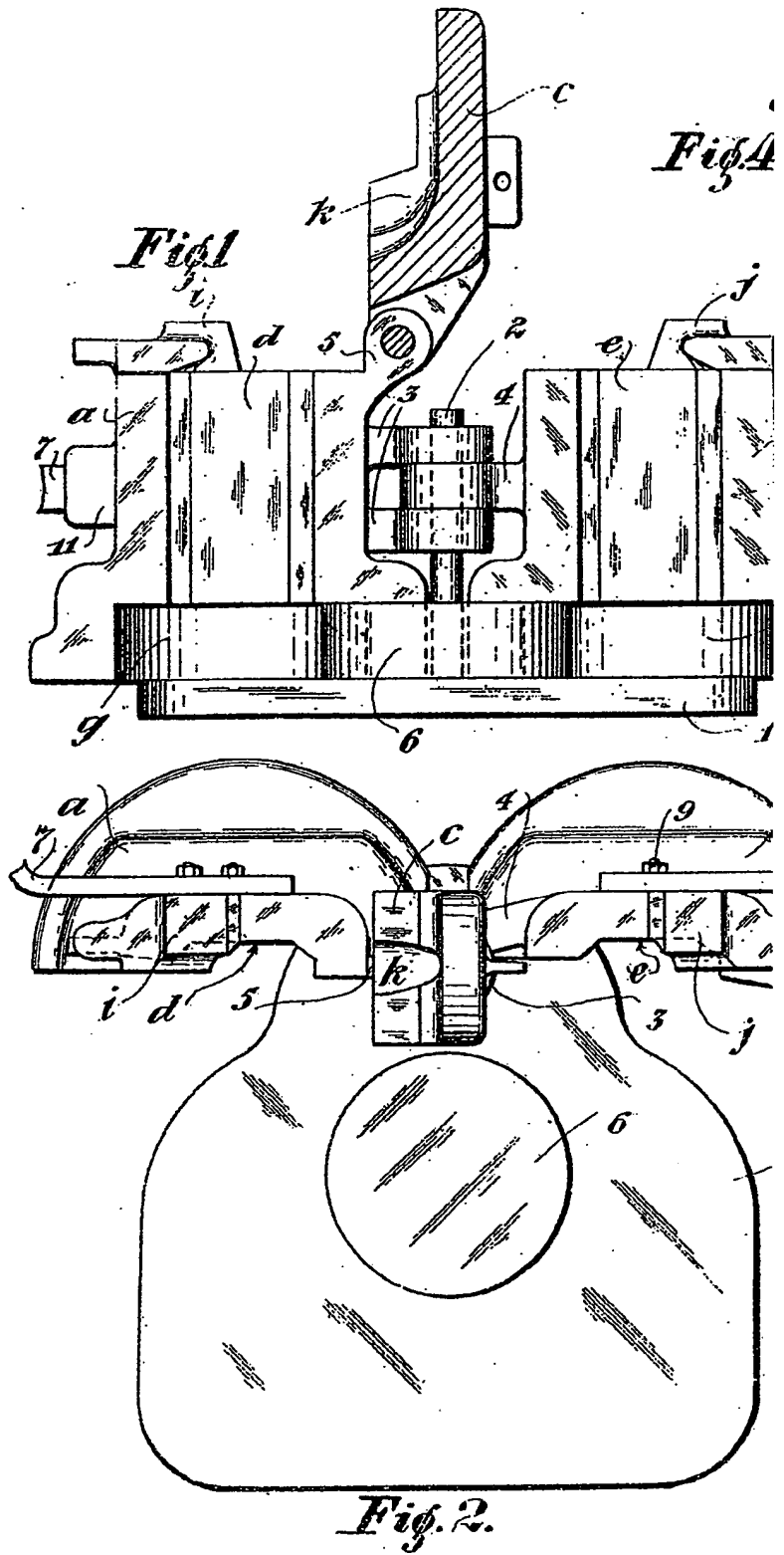
8. Bottles made by the means or method and means substantially as claimed 40 in the foregoing claims.

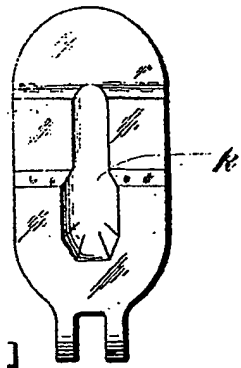
Dated this 17th day of September, 1919.

W. R. M. THOMSON & Co.,
96, Buchanan Street, Glasgow,
Agents.

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[This Drawing is a reproduction of the Original on a reduced scale.]





b

7



b

7

10

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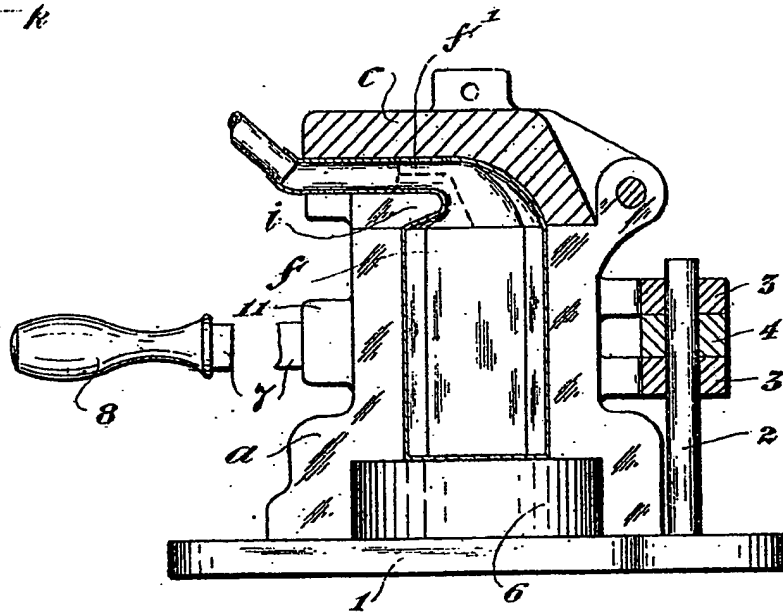


Fig. 3.

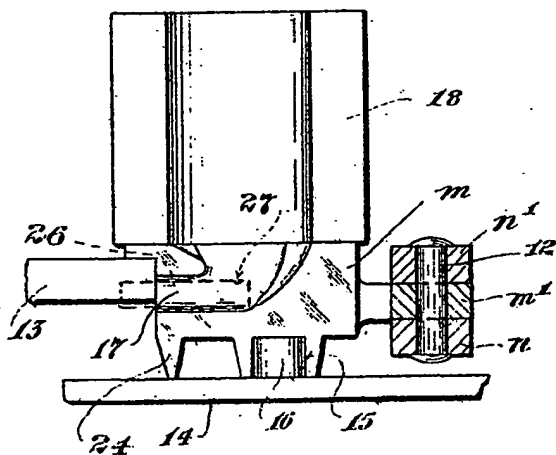


Fig. 5.

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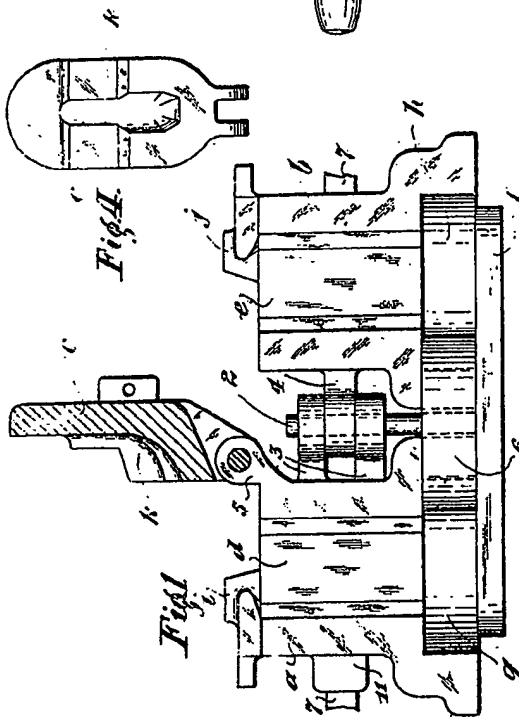


Fig. 1.

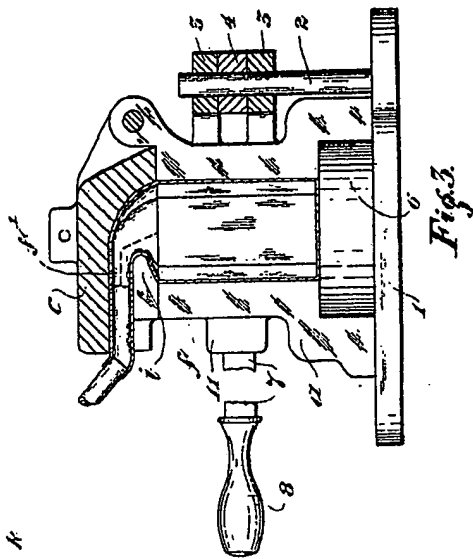


Fig. 3.

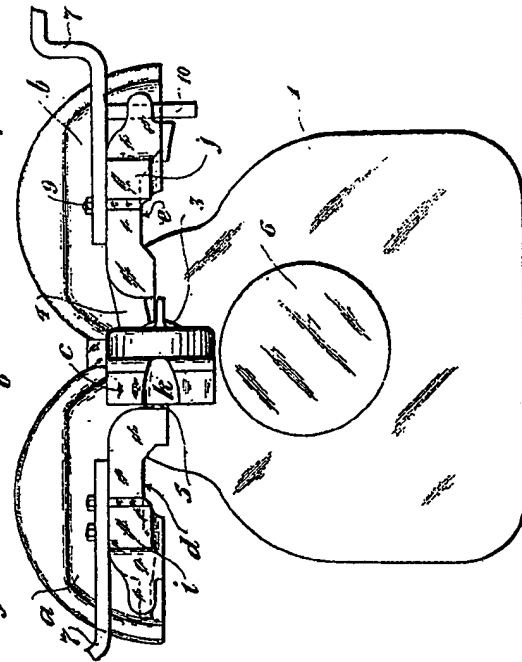


Fig. 2.

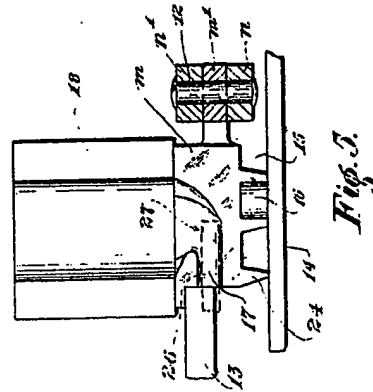


Fig. 3.

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